US009636776B2

(12) **United States Patent**
Dallarosa et al.

(10) **Patent No.: US 9,636,776 B2**
(45) **Date of Patent: May 2, 2017**

(54) **LASER-BASED MARKING METHOD AND APPARATUS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 722 days.

(21) Appl. No.: **14/070,908**

(22) PCT Filed: **May 2, 2011**

(86) PCT No.: **PCT/US2011/034778**

§ 371 (c)(1),
(2), (4) Date: **Nov. 4, 2013**

(87) PCT Pub. No.: **WO2012/150926**

PCT Pub. Date: **Nov. 8, 2012**

(65) **Prior Publication Data**

US 2016/0158885 A1 Jun. 9, 2016

(51) **Int. Cl.**
B23K 26/06 (2014.01)
B29C 71/02 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B23K 26/0619*** (2015.10); ***B23K 26/0006*** (2013.01); ***B23K 26/0066*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC B23K 26/0006; B23K 26/0066; B23K 26/0619; B23K 26/0622; B23K 26/362;
(Continued)

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(57) **ABSTRACT**

A method for marking a thin workpiece is designed to prevent deformation of the workpiece. A plurality of lasers are opposed to respective opposite sides of the workpiece so as to both sides are heat treated. The lasers can operate synchronously with the respective emitted beams aligned with one another. As a result, the workpiece does not exhibit signs of deformation upon the completion of the marking. The workpiece is made either from plastic or metals and has a thickness not exceeding 2 millimeters. The lasers each are configured as either a fiber laser or a gas laser. The marking can be performed by lasers which are configured uniformly or non-uniformly and includes annealing, engraving and ablating. The marking can be performed synchronously or sequentially. The multi-surface marking could also be used to cause "distortion of the surface in a more controlled or desired fashion.

11 Claims, 1 Drawing Sheet